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GENDER DISPARITY ON THE GLOBAL STAGE: THE ENDURING IMPACT OF MNCS

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Abstract

This article explores how multinational corporations (MNCs) discriminate against women in their workforce. MNCs are a crucial source of employment opportunities for women, particularly in the consumer goods and service sectors. Despite this, MNCs often pay women less than men, subject them to poor working conditions, and terminate their employment without notice in times of economic downturn. The article presents case studies of Colgate-Palmolive and Ford Motor Company to support these claims. Additionally, the article highlights the lack of accountability held by MNCs for violating human and labor rights in both their home state and host state. The legal regime fails to provide a framework to address gender discrimination, and international law does not hold MNCs accountable. The article argues for the need to establish an international legal standard to protect women's rights in MNCs, which must be versatile enough to address various types of discrimination against women. This non-empirical paper draws from treaties, declarations, academic journals, books, and website materials relevant to women's rights.

1. INTRODUCTION

Multinational Corporations (MNCs) are an inextricable part of global economy. They are also a major source of employment for women. The predominance of the MNCs can be observed globally in heavy industries such as petrochemicals and automobiles, and it is also present in consumer goods, including shoes, clothing, toys, and other services like hotel and airline reservations. Of these, it is in the consumer goods and service sectors that the MNCs create employment for women.

Women workforce, both skilled and unskilled, work at different levels in the MNCs. The MNCs have a growing impact on women not only because of their enormous worldwide presence but also because of the greater sphere of influence. However, women are even more vulnerable economically because they are paid smaller amount of money, have no profits, and can be terminated immediately in the event of an economic dip.

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Thus, the MNCs indulge in massive violation of women's rights. Moreover, their policies are often discriminatory and the legal regime of neither the home state nor the host state are specifically intended to deal with gender discrimination. Similarly, the international law also lacks any standard to hold such MNCs accountable. Therefore, the challenge for today is to build a standard for women's rights in MNCs that is satisfactorily wide-ranging and malleable to address multiple types of discrimination against women.

In this context, the article will attempt to foreground the concerns and experiences of the women MNCs workers. It will also highlight the loopholes in the state laws, both home and host, in holding MNCs accountable as well as the international law's lack of standard to regulate such MNCs. The article will also advocate construction of an international legal standard for women's rights in MNCs.

2. MATERIALS AND METHODS

The article will be a non-empirical one, materials for which will be collected from both primary and secondary sources. Reliance will be placed on treaties, declarations, and resolutions pertaining to the rights of women along with secondary source materials like books, articles from academic journals and relevant website materials. Attempt will also be made to analyse several empirical works published by individual academicians, NGOs, and research institutes.

3. RESULT AND DISCUSSION

Following are the result and discussion:

3.1. Multinational Corporations: Meaning and Definition

Multinational Corporations (MNCs), which are also known as transnational corporations, are companies whose headquarter is in one country, which is called home country, and its subsidiary operations are in several other countries, which are called the host countries. It is, therefore, often believed that the modus operandi of these corporations is that they regard the entire world as their potential market (Irogbe, 2013).

The past few decades have witnessed a dramatic increase of MNCs. As of 2013, an estimated 100,000 MNCs account for more than a quarter of the global gross domestic product (Wouters and Chané, 2013). MNCs are seen as the global goliaths of modern times, accounting for huge portions of world production, employment, investment, trade, and R&D. MNCs are viewed as contributing to the economic and technological development of societies (Gatto, 2011), but they also harm human rights, damage the environment, or even commit crimes.

Any discussion of MNCs must begin with its definition. However, there are some noteworthy definitional problems, for instance, regarding the use of the appropriate word for it: is it a firm, enterprise, corporation, or a company?

In economics, the term firm is used, and in general other terms such as enterprise or company is used. It is argued that the term firm is misleading when it is applied to the modern corporation as it is attached to the classical economic theories in which firms maximize certain variables within a competitive market framework. To ascribe these characteristics to a modern multinational corporation is empirically erroneous; international accounting and costing make quantitative approaches difficult, and competition in markets is constrained or, in some industries, non-existent (Harrod, 2009).

Likewise, the term enterprise implies the creative combination of labour and capital by an entrepreneur, a situation that is far removed from the contemporary reality of the modern corporation in which procedures are bureaucratized and chief executive officers are appointed for organizational leadership rather than entrepreneurial skills (Harrod, 2009).

Company was the original term for the larger firm incorporated within laws originating at the beginning of the Industrial Revolution and, currently, it implies less formality than the modern corporation with its charter and legal personality in law.

Furthermore, the use of the term transnational, multinational or global also pose the same definitional challenges vis-à-vis MNCs. The word transnational means operating over and above nations and borders, whereas global implies global operation, that is, operations all over the globe.

J. W. J. Harrod, therefore, argued that the word multinational is more accurate than the often used transnational or global. The word multinational implies operating in a select number of countries with a core objective of using international production to service a single national market (Harrod, 2009).

To add to the definition of an MNC given in the beginning, one might refer to it as a specific corporation which has direct operations in several countries, and it is also marked by a centralized structure. The decision-making about products is done at the headquarter, and the subsidiary offices carry them out with options of adaptation to local markets. The Coca-Cola, Ford, Nestle, Shell, Nike, Adidas are examples of such MNCs.

3.2. Origins of Corporations

The origins of corporations might be traced back to the seventeen century Europe. It might be viewed in terms of a deal between the monarchy and corporations. The deal was about a right to exist granted to them by the monarchy in lieu of some public mission that the corporations were assigned to fulfil. It might also be viewed as a privilege that the monarchy accorded to a group of investors to finance trade missions wherein the liability of investors was limited to the amount of their investment because of establishing the corporation.

The trade missions entailed perilous sea journeys, for instance, natural calamities, pirates, and competing European powers. Even if such missions were successful in reaching their destination markets for trade, the indigenous people, for instance the native Americans, also formed a resistance against them settling there. One of the earliest examples of settlements in America was a corporation that had been chartered by the King Charles I in 1628 (Davis, 1917). It was called the Massachusetts Bay Company. It might also indicate towards a nexus between the erstwhile colonial powers, for instance, Holland, Spain, France, and England, and the corporations. The corporations functioned as a tool to colonize the new world for these powers.

In other words, the deal was that the corporations would be chartered under the privilege, and they would be required to fulfil their trade missions for the monarchy by colonizing the new world. It created a mercantile economic system that added up to the wealth of these colonial powers as the corporations converted the new world into colonies that were the source of raw material as well as market for the goods.

In the context of America, after the revolution that drove out the colonizers and their corporations, the American government itself would charter corporations to carry out public works. However, from 1807 when trade with the colonial powers was prohibited, the American citizens themselves started establishing corporations. It marked a shift in the idea of corporations because they were no longer under the government rule and thereby became independent entities that were driven by profit. There was an incident in 1886, in the American context, that added a new dimension to the idea of corporations. It emerged through a court case, Santa Clara County v. Southern Pacific Railroad, wherein the American Supreme Court used the 14th Amendment and defined the corporations as persons and thereby granted constitutional protection to them (Corwin, 1909). However, the modern idea of corporations was well-established by the time of the World War I.

3.3. Women Working at Corporations: A Historical Overview

In the early 20th century, factory work was considered a man's job and therefore few women would be employed in the field. At the outbreak of the World War I, this started to change. It led to a significant increase in the number of women employed in factories. These women performed various roles, for instance, they ran drill presses, did

welding, operated cranes, used screw machines, and handled all manner of metal working equipment. They did more than just manual labour as they were also involved in production design, lab testing, drafting rooms, warehouse work, and driving trucks (Drury, 2015).

It is not uncommon that one might associate the idea of women workers in factories with the World War II, but it was the Great War that the number of women in factories truly began to increase. It was not long after the war ended that American woman who had tasted the freedom of independence that factory work provided them with were given the right to vote. In 1920 the 19th Amendment gave women the right to vote and the new powers and freedoms that women experienced during World War I expanded influence of the Women's Suffrage movement along with the number of women in it (Fasce, 2002).

The need for women in factories was so essential for war production that the United States government's Department of Labour created the Women in Industry Service (WIS) in 1918. Industry had been increasingly disrupted by men being shipped overseas and the increased production requirements meant that women became necessary to the war effort. The WIS was headed by Mary van Kleeck who was a college-educated woman as well as an adamant feminist. The WIS had been established to solve a temporary problem but became a permanent part of the Department of Labour in 1920 when it developed into the United States Women's Bureau.[2]

Insofar as India is concerned, the evidence suggest that women were a critical segment of the industrial labour force since its inception. Scholar such as Janet Harvey Kelman gives an account of how women were associated with earliest efforts to introduce modern mill industry in the country. She writes that a group of girls were brought to Bengal from Lancashire (England) to introduce factory methods of work (Kelman, 1923).

In a similar vein, it is also documented that in the mid-19th century, the indigenous or the Adivasi men were lured to British-owned tea gardens in Assam, India, from the erstwhile Indian state of Bihar. Labourers were contractually bound to the company and management encouraged migration with families. Low wages made tea workers dependent on plantation owners for their basic needs including housing, education, health care, water, sanitation, and basic rations.

Women and children originally came as dependents of the male tea workers. As vulnerability and dependence on plantation owners increased, the female family members and children were also absorbed in the plantation workforce. The managers came to believe that women's soft hands and nimble fingers were better suited for tea leaf plucking. In Assam's tea plantations, women were further marginalised as, for years, they were treated unequally in terms of remuneration and benefits (Kaur, 2017).

3.4. Gender Discrimination: Case Studies

Colgate-Palmolive

Gender discrimination at MNCs might be elicited through case studies. One such case study is related to Colgate-Palmolive.[3] A supposedly protective law during the Progressive Era from 1900 to the World War I placed limits on the weights that women workers were allowed to lift. Such an injunction prohibited women from earning equal or more than their men counterparts.

As the World War II involved the world, the men were required on the frontiers. As mentioned above, women's number grew as they filled vacancies created due to men's participation in the war. The same limit on lifting of weight was applied to these women workers at Colgate-Palmolive, that is, they were allowed to lift only up to 25 pounds of weight.

[2] Women in the Factories, https://library.ccsu.edu/dighistFall16/exhibits/show/industry-ct-ww1/women-in-the factories, Accessed on 12 September 2021.

[3] Choice #4 Bowe v. Colgate-Palmolive Company - womenshistoryproject (google.com) [3] Sweatshop - Wikipedia

After the war, when the men returned and took their jobs back, they were given more intensive jobs that entailed lifting of heavier weights than 25 pounds. It indicated towards a clear discrimination against one gender as women were prohibited from earning more than the weight they were allowed to lift at Colgate-Palmolive. Similarly, it also had a seniority system based on one's sex or gender, that is, the company followed a system in which men and women's seniority was defined differently. A system like this could make women workers promote slower than their men counterparts and thereby affect their careers at Colgate-Palmolive.

Ford Motor Company

Like the Colgate-Palmolive, the Ford Motor Company started hiring women workers from 1918 during the World War I as a replacement of male workers who had to join the war. It was a time when the working conditions at Ford were not conducive to workers in general and therefore posed more problems to women workers. Due to restrictions in the name of efficiency, even talking to each other would be viewed as wastage of time that affected production. So the worker developed a way of speaking with each other without moving their lips, which was known as Fordization of face. The real trouble for women workers began after the war when they were laid off as their men counterparts started to return after the war.

Mass Fainting in Cambodia

The cases of mass fainting were reported in 2013, 2017, and 2018 in Cambodian factories that manufactured goods for MNCs such as Nike, Puma, Asics, and VF corporations. It was reported that hundreds of women fainted in these factories due to overexertion. These women workers were required to work ten hours shift for six days a week. The temperature in these factories would be very high under which these women workers had to work. They also faced hunger in these factories as long hours would not leave them time for lunch. The other major problem with respect to these women workers that was highlighted related to their wages (Eisenbruch, 2017). They earned monthly minimum wages up to 120 GBP. If they worked two hours of overtime, they could earn between 150190 GBP. However, there was no provision for the living wages that could amount up to 300 GBP.

Nike Sweatshops in Vietnam

A sweatshop is a type of factory that manufactures goods, especially, clothing and employs cheap labour.[3] Such factories have congested space, uneven temperature, and underpayment to workers but longer working hours. Since these factories manufacture goods for MNCs like Nike, the chief objective that is achieved through such sweatshops is to maximize the profits for MNCs at the cost of workers.

It was reported in 2016 that the Nike sweatshops in Vietnam violated basic rights of the workers, especially, the female ones.[4] The workers were abused, there were restriction on the use of toilets, and, in case somebody fell sick, they were denied leave. The work was so hazardous due to toxic solvents and glues that the workers would often fall sick. After coming for work, the doors of the sweatshops would be padlocked.

Legal Regulation of MNCs

The most authoritative body over MNCs is believed to be the home state's government. It is true that an MNC is always prone to face tangible consequences from its home state for unfair behaviour. However, not many national governments have specifically intended legal regimes to deal with their companies that go in a foreign state, and rather end up using internal laws as an alternative. If we take the example of the U.S., its main strategy is to expand the scope of prevailing civil rights laws to apply abroad. In 1991, the U.S. Supreme Court decided to broaden the 1964 Civil Rights Act to encompass U.S. nationals of U.S. companies functioning on foreign land. Extending the Civil Rights Act abroad has its own limitations and loopholes. One such loophole is that the U.S. Supreme Court has laid down two "outclauses" for MNCs. The first is named the Foreign Compulsion Defense

[4] Nike Sweatshops In Vietnam: Evaluation Of Negative And Positive Sides: Free Essay Example, 770 words (samplius.com)

and the other is called the Bona-fide Occupational Qualification Defense. Under the first “outclause”, a U.S. corporation can appeal for immunity from U.S. laws if they would infringe the laws of the host state. Additionally, the second clause permits corporations within U.S. to justify unequal treatment according to gender if it is seen to be necessary for the functioning of their corporation. Applied transnationally, this implies that MNCs at present have the same concession overseas if they are able to demonstrate it is important for their business operations in a foreign soil (Poster, 2001). The supplementary problems with the U.S. laws for MNCs, is the obvious mission of these protections for non-U.S. nationals. As the U.S. Civil Rights Act pertains no more than to its own nationals, it does not include the greatest ratio of foreign employees who actually work in these corporations. Indeed, such discriminatory U.S. laws have often generated tensions, as U.S. employees may be entitled for certain advantages for which the foreign employees are not (Cook, 1996). Thus, an analysis of US laws makes clear that the home state governments are having less and less control over their own MNCs (Poster, 2001).

In such a situation when home state laws are loaded with so many problems, the next legal option will be to rely upon the host state to implement laws for MNCs. Even if host governments may be in a superior position to address these concerns, they frequently keep themselves out from intervening between local workers and MNCs. On the contrary, many states guarantee immunity from local labour, environmental, and tax laws as an inducement in order to attract MNCs. Scholars also maintain that many developing states even go to the extent of condoning MNCs' labour rights infringements by turning a blind eye to worker exploitation or by deliberately skipping national labour laws, as relevant to visiting MNCs, from their legislation (Ayoub, 1999).

The states do so because the MNCs have the option to pack up and go away if endangered by state labour regulations. For instance, Nike shifted one of its units from Indonesia to Vietnam in the event of similar threat and then decreased wages by almost half (Ho et al, 1996).

The above-mentioned difficulties in enforcing state laws (both home and host), leaves one with the option of international law. A number of international organizations have by now begun to deal with these issues, by enabling international forums for filing cases as well as international monitoring organisations to administer the practices of MNCs. Amongst the most wide-ranging activities with respect to gender issues are those of the CEDAW, which entails national governments to take all possible measures to remove discrimination against women by any individual, organisation or enterprise (United Nations, 2001). Similar international instruments that address women's rights in the place of work are the ICESCR and the ICCPR. A further basis of support for women employees within the UN is the ILO. Distinct from other UN bodies, the ILO arguably has a fairly democratic executive council that comprises not just state representatives, but also employees and employers as well (Ho et al,1996).

These treaties and organisations apparently have the privilege of offering legal remedy for women who have attempted all other local remedies (Walker, 2000). However, in reality these organisations and instruments not have effective powers of enforcement. They are incapable to enforce sanctions on states which agree to the treaties on document and then fall short to conform in practice. Indeed, "out clauses" that is present in a few of these instruments are analogous to the ones in the U.S. Civil Rights Act. For instance, CEDAW has a similar "opt-out" provision. The states that ratify the treaty can opt to let off themselves from questions regarding "grave or systematic" breaches of the treaty Walker, 2000). Still another drawback of these instruments is that in spite of their widespread universal support, a lot of the most powerful states worldwide still disregard them. The U.S., for instance, has failed to ratify both CEDAW and ICESCR (Ayoub, 1999). It is also argued that ILO as an international organisation is left only with option of employing the persuasion strategies of compliance, and international public humiliation via the media to get rejoinders from states (Ayoub, 1999).

Apart from these treaties and organisations, there are also a number of institutions set up exclusively to work on MNCs. However, such institutions have a difficult time sustaining themselves. The UN, for example, established a Commission of the Code of Conduct for Transnational Corporations in the 1980s, but it failed to persist in the course of the 1990s, having modest support or financial support. A later replacement of this commission is UN Secretary General Kofi Annan's "Global Compact," but its members are mainly dominant MNCs and their trade associates, and therefore, it is severely condemned by a number of labour and activist groups (Bello et al, 2001). In a similar vein, the ILO's Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy created in the 1970s contains a broad scope of safeguards and also a complaint mechanism but has been unsuccessful to utilise it vigorously or investigate into corporate practices (Ayoub, 1999).

Figuring out who will and how to hold MNCs accountable cannot be totally dealt, until one address the more vital issue of defining the term "gender discrimination".[5] The aforementioned difficulties in holding MNCs accountable emerge mainly from the definitions of discrimination adopted by IOs which are either imprecise or too firm to be worthy. State-based definitions of discrimination also fall short for adequately addressing patterns that take place at the place of work. Legal provisions of states like India and U.S, for instance, are always too constricted to identify the varied types of discriminatory logics that prevails for different professions in the same establishment, and at times still within the same positions. The legal frameworks put forward by IOs also accede to similar restrictions, but in diverse forms. With a number of UN bodies, definitions of discrimination are unproductive as they are too extensive as well as vague. For instance, ILO has prepared a list of more than 75 treaties demonstrating the rights of employees, which sometimes comprises special provisions concerning gender. However, the ineffectiveness of the definition of discrimination becomes evident if one looks at how ILO Equality Convention No. 111 outlines discrimination. It reads as: Any distinction, exclusion or preference based on race, colour, sex, religion, political opinion, national extraction or social origin (or any other motive determined by the State concerned) which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation (International Labor Office, 2001).

In a similar but slightly detailed manner, CEDAW defines rights related to work in terms of: equality of men and women ... in particular: ... the right to free choice of profession and employment, the right to promotion, job security and all benefits and conditions of service and the right to receive vocational training and retraining ... the right to equal remuneration, including benefits, and to equal treatment in respect of work and equal value, as well as equality of treatment in the evaluation of the quality of the work.[6]

The drafters of the above provisions used the utmost common words possible, such as "equal value" and "equal treatment". The idea would have been to be as wide-ranging as possible regarding the types of discrimination. These definitions remain too abstract to pin point specific cases of discrimination and consequently to hold individuals or institutions accountable for their discriminatory behaviours.

4. CONCLUSION

From the above, it may be deduced that the accountability of MNCs for violation of labour rights, including gender discrimination is greatly detached from any legal body, be it state or IOs, which have authority (Poster, 2001).

[5] There are several types of gender discrimination which women experiences in the workplace. These include sexual harassment, comparable worth, maternity issues, access to job and rewards and many others. Scholars argue that each type is equally important and merit separate analysis.

[6] Article 11, 1, c and d of the Convention on the Elimination of All Forms of Discrimination against women.

MNCs have become an inevitable aspect of global economy. They have also become a major source of employment for women. Women force, both skilled and unskilled, work at different level in the MNCs. However, such MNCs indulge in massive violation of women rights. Their policies are often discriminatory and the law of the home state, host state as well as international law lacks any standard to hold such MNCs accountable. Therefore, the challenge for today is to build a standard for women's rights in MNCs that is satisfactorily wide-ranging and malleable to address multiple types of discrimination against women.

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REFERENCES

Ayoub, L. (1999), "Nike Just Does It – And Why the United States Shouldn't: The United States' International Obligation to Hold MNCs Accountable for Their Labor Rights Violations Abroad", De Paul Business Law Journal, Vol. 10, No. 1, pp. 395-426.

Bello, W. et al (2001), "Global Compact – Groups Call for Suspension in Porto Alegre", Corporate Watch: The Watchdog on the Web, [Online: web] Accessed 12th February, 2022, URL: http.//www.corpwatch.org/trac/globalisation/un/papr.html

Cook, M. P. (1996), "The Extraterritorial Application of Title VII: Does the Foreign Expulsion Defense Work", Suffolk Transnational Law Review, Vol. 20, No. 1.

Corwin. E. S. (1909). "The Supreme Court and the Fourteenth Amendment", Michigan Law Review, Vol. 7, No. 8, pp. 643- 672.

Davis, J. S. (1917), "Essays in the Earlier History of American Corporations", Harvard University Press. Drury, David. Hartford in World War I. Charleston: The History Press, 2015.

Eisenbruch, M. (2017), "Mass fainting in garment factories in Cambodia", Transcultural Psychiatry, Vol. 54, No. 2, pp. 155-178.

Fasce, Ferdinando. An American Family: The Great War and Corporate Culture in America. Translated by Ian Harvey. Columbus: Ohio State University Press, 2002.

Gatto, A. (2011), Multinational Enterprises and Human Rights: Obligations under EU Law and International Law, UK & USA: Edward Elgar Publishing.

Ho, L. et al (1996), "(Dis) Assembling Rights of Women Workers Along the Global Assembly Line: Human Rights and The Garment Industry", Harvard Civil Rights – Civil Liberties Law Review, Vol. 31, No. 2.

International Labor Office (2001), Summary Description of ILO Equality Conventions, Nos. 100 and 111, Geneva; International Labour Standards Department.

Irogbe, K. (2013). "Global Political Economy and the Power of Multinational Corporations", Journal of Third World Studies, Vol. 30, No. 2, pp. 223- 247.

Kaur, Guneet, "Nimble Fingers, Stifled Voices", International Labour Rights Forum, [Online: web] Accessed on 17th October, 2021, URL: https://laborrights.org/blog/201711/nimble-fingers-stifled-voices.

Kelman, J. H. Labour in India: A Study of the Conditions of Indian Women in Modern Industry, London, 1923.

Poster, R. (2001), "Dangerous Places and Nimble Fingers: Discourses of Gender and Rights in Global Corporations", International Journal of Politics, Culture and Society, Vol. 15, No.1.

Sassen, S. (2002). Women's burden: Counter-geographies of globalization and the feminization of survival. Nordic Journal of International Law, 71(2), 255-274.

UNCTAD, (2014). Investment by TNCs and gender: Preliminary assessment and way forward. United Nations conference on trade and development investment for development policy research series. https://unctad.org/system/files/official-document/webdiaeia2014d4_en.pdf

United Nations (2001), Convention on the Elimination of All Forms of Discrimination Against Women, Washington DC: Division for the Advancement of Women, [Online: web] Accessed on 17th October, 2021, URL: http://www.un.org/womenwatch/daw/cedaw/reports/18report.pdf

Walker, A. S. (2000), "CEDAW Optional Protocol Goes Into Force!!", IWTC Women's Global Net #158, October 2, 2000 [Online: web] Accessed on 16th November, 2021, URL: http://www.iwtc.org/158.html

Wouters, J. and Chané, A. (2013). "Multinational Corporations in International Law", Working Paper No. 129 – December 2013, SSRN Electronic Journal, [Online: web] Accessed on 10th October, 2021, URL: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2371216